REMARKS

Claim 1 and 10 have been amended. Claims 1 to 13 and 23 to 26 remain active in this application.

Claim 1 was rejected under 35 U.S.C. 103(a) as being unpatentable over Hashzume (U.S. 5,946,556) in view of Huang et al. (U.S. 5,994,767). The rejection is respectfully traversed.

To begin with, Hashizume does not teach or even suggest "gold selectively plated on segments of said leadframe intended for solder attachment" as alleged in the Office action. The portion of Hashizume referred to, namely column 10, lines 26 to 34, mentions that the lead fingers are plated with metal such as gold or silver, but nowhere states that this plating is selective as claimed. In view of the fact that the prior art did not use selective plating, there is no basis for reading selective plating into this section of Hashizume other than from the teaching of the subject disclosure. The art at the time would arrive at the sole conclusion that the plating was over the entire leadframe and not selective as alleged by the Examiner.

With reference to Huang et al., the discussion as to selective plating over specific portions of the leadframe is not directed to the plating of the gold layer and there is no requirement that the gold layer be exclusively limited to being over the palladium layer as expressed at column 2, lines 45ff. It follows that the cited combination of references fails to teach or suggest the invention as claimed in claim 1.

Claims 2 to 13, 15 and 23 to 26 were rejected under 35 U.S.C. 103(a) as being unpatentable over Akino et al. (Japan 2000-77593) in view of Huang et al. The rejection is respectfully traversed.

Claim 2 requires, among other features, "gold selectively plated on segments of said leadframe intended for solder attachment". No such structure is taught or suggested by either of the cited references, Huang et al. having been discussed above and Akino et al. clearly stating that the gold is formed on the entire surface of the leadframe. Furthermore, since Akino et al. clearly states that the gold is formed on the entire surface

of the leadframe, there is clearly no basis for a combination of the references, even, arguendo, were Akino et al. to teach the selective gold plating as claimed.

Claims 3 to 10 depend from claim 2 and therefore define patentably over the applied references for at least the reasons presented above with reference to claim 2.

Claim 3 further limits claim 2 by requiring that the gold layer have a thickness in the range from 2 to 5 nm. No such combination is taught or suggested by Akino et al. Huang et al. or any proper combination of these references.

Claim 4 further limits claim 2 by requiring that the first nickel layer have a thickness in the range from 50 to 150 nm. No such combination is taught or suggested by Akino et al. Huang et al. or any proper combination of these references.

Claim 5 further limits claim 2 by requiring that the alloy layer have a thickness in the range from 50 to 150 nm. No such combination is taught or suggested by Akino et al. Huang et al. or any proper combination of these references.

Claim 6 further limits claim 2 by requiring that the second nickel layer have a thickness in the range from 1000 to 3000 nm. No such combination is taught or suggested by Akino et al. Huang et al. or any proper combination of these references.

Claim 7 further limits claim 2 by requiring that the palladium layer have a thickness in the range from 25 to 75 nm. No such combination is taught or suggested by Akino et al. Huang et al. or any proper combination of these references.

Claim 8 further limits claim 2 by requiring that the copper or copper alloy base have a thickness between about 100 and 250 μm. No such combination is taught or suggested by Akino et al. Huang et al. or any proper combination of these references.

Claim 9 further limits claim 2 by requiring that the solder attachment comprise solder materials selected from a group consisting of tin/lead, tin/indium, tin/silver, tin/bismuth and conductive adhesive compounds. No such combination is taught or suggested by Akino et al. Huang et al. or any proper combination of these references.

Claim 10 further limits claim 2 by requiring that the leadframe comprise an iron-nickel alloy or invar base, selectively plated with gold. No such combination is taught or suggested by Akino et al. Huang et al. or any proper combination of these references.

Claim 11 requires, among other features, "said leadframe further having gold selectively plated on segments of said leadframe intended for solder attachment". No such feature is taught or suggested by Akino et al. Huang et al. or any proper combination of these references for reasons stated above.

Claims 12 and 13 depend from claim 11 and there define patentably over the applied references for reasons presented above with reference to claim 11.

In addition, claim 12 further limits claim 11 by requiring that the bonding wires be selected from a group consisting of gold, copper, aluminum and alloys thereof. No such combination is taught or suggested by Akino et al. Huang et al. or any proper combination of these references.

Claim 13 further limits claim 11 by requiring that the bonding wire contacts to the first ends of the lead segments comprise welds made by ball bonds, stitch bonds, or wedge bonds. No such combination is taught or suggested by Akino et al. Huang et al. or any proper combination of these references.

Claim 23 requires, among other features, a leadframe having a layer of nickel and a layer of palladium covering the chip mount pad and the plurality of lead segments, and

gold selectively plated on portions of the lead segments intended for solder attachment. No such feature is taught or suggested by Akino et al., Huang et al. or any proper combination of these references for reasons stated above in connection with claim 2.

Claim 24 requires, among other features, a leadframe having a layer of nickel and a layer of palladium covering the chip mount pad and the plurality of lead segments, and gold selectively plated on portions of the lead segments intended for solder attachment, wherein the layer of palladium has a thickness in the range of about 0.03% to about 6% of a thickness of the nickel layer. No such feature is taught or suggested by Akino et al., Huang et al. or any proper combination of these references for reasons stated above in connection with claim 2.

Claims 25 and 26 depend from claim 24 and therefore define patentably over the applied references for at least the reasons presented above with reference to claim 2.

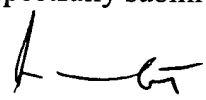
In addition, claim 25 further limits claim 24 by requiring that the layer of nickel have a thickness in the range of about 500 nm to about 3000 nm and the palladium layer have a thickness in the range of about 10 nm to about 30 nm. No such feature is taught or suggested by Akino et al., Huang et al. or any proper combination of these references for reasons stated above in connection with claim 2.

Claim 26 further limits claim 24 by requiring that the gold have a thickness in the range of about 6% to about 50 % of the thickness of the palladium layer. No such feature is taught or suggested by Akino et al., Huang et al. or any proper combination of these references for reasons stated above in connection with claim 2 as well as for the additional limitations set forth in this claim.

With reference to the allegation that the specification provides no critical nature for the claimed dimensions, it is respectfully noted that a purpose of the present invention is to minimize the noble metal requirements in order to provide an economic advantage. This economic advantage is reflected in the dimensions as claimed.

In view of the above remarks, favorable reconsideration and allowance are respectfully requested.

Respectfully submitted,



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